AMENDMENT TO THE CLAIMS

1. (currently amended) A method of addressing in quantum network which includes at least three nodes with a star-configuration, the method comprising steps of:
appointing each node an address serial number;
sending photon signals having different wavelengths from each node to other nodes, wherein each of the photon signals regards signal source wavelength and node address serial number as an addressing badge, said addressing badge is made up of two parts, one part is determined by the wavelength of the photon signal which the node sends, the other part is determined by the address serial number of the node; and
determining, by each node, where the photon signals come from by using the addressing badges of the photon signals.

2. (currently amended) The method of claim 1, wherein when the number of nodes in the quantum network is odd, the number of said signal source wavelengths is N; when the number of nodes in the quantum network is even, the number of said signal source wavelengths is N-1; here N is the number of nodes in the quantum network.

3. (original) The method of claim 1, wherein said photon signal is optical quantum state signal, or classical optical signal.

4. (currently amended) A ~~quantum network~~ router in a quantum network~~used for the method of claim 1~~ which includes N nodes with a star-configuration, wherein N is equal to or larger than 3, the router comprising:
~~a photon signal allocator including~~ N ~~sets of~~ optical components~~,~~ ~~here N is the number of nodes in the network, one end of~~ each ~~optical component~~ comprising~~is~~ a mix wavelength interface which is an external interface of the router, and at least N-1~~the other end includes~~ separate wavelength interfaces;
~~an external interface comprising mix wavelength interfaces of optical components;~~
wherein ~~the number of separate wavelength interfaces is at least N-1,~~ every separate wavelength interface transmits different photon signals having different wavelengths, and each of separate wavelength interfaces of different optical components, which transmit the same wavelength signals, are directly coupled to one another~~connect one to one~~ so as to route the photon signals with different wavelength transmitted by one

node to other nodes by using an addressing badge, said addressing badge is made up of two parts, one part is determined by the wavelength of the photon signal which the node sends, the other part is determined by the address serial number of the node.

5. (currently amended) The ~~quantum network~~ router of claim 4, wherein when N is even, said separate wavelength interfaces of each optical component are ~~the same~~identical to each another in all wavelengths, the total number of wavelengths used in the ~~whole quantum network~~ router is N-1; when N is odd, separate wavelength interfaces of any two optical components ~~have one~~are different ~~separate wavelength interface~~ from each other in one wavelength, the total number of wavelengths used in the ~~whole quantum network~~ router is N.

6. (currently amended) The ~~quantum network~~ router of claim 4, wherein said optical component is made up of integrated or separate dispersive and accessorial passive optical components.

7. (currently amended) The ~~quantum network~~ router of claim 4, wherein said optical component is reversible wavelength division multiplexer.

8. (currently amended) The ~~quantum network~~ router of claim 4, wherein said optical connection is achieved via fiber, wave-guide, free space or other optical medium.

9. (currently amended) The ~~quantum network~~ router of claim 4, wherein said optical connection can add collimating, coupling or reflecting optical passive components in the optical path to improve the optical capability of the connection.

10. (Currently amended) The ~~quantum network~~ router of claim 4, wherein said optical components of the ~~whole quantum network~~ router, include dispersive, collimating, orienting or coupling components, are integrated with wave-guide substrate totally or partially.